Natural resource conflicts in the Western Amazon:

Implications for community management of NTFPs






Amy Duchelle[1], Peter Cronkleton[2], Karen Kainer[1, 3] and [4]Gladys Guanacoma

[1]School of Forest Resources and Conservation, University of Florida, Gainesville
[2]Center for International Forestry Research (CIFOR), Santa Cruz, Bolivia
[3]Center for Latin American Studies, University of Florida, Gainesville
[4]Universidad Amazónica de Pando, Bolivia

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Tri-national region (Madre de Dios, Peru – Acre, Brazil – Pando, Bolivia)



Map: A. Alencar

Brazil nut (*Bertholletia excelsa*): Central non-timber forest product in region



Photo: C.V. Gomes

- "Forest giants" reaching 50m height, 3m dbh
- Long-lived species
- Density estimated at 2.5-3 trees per hectare
- Reproductive in mature, intact forest. Little success in plantations.

Brazil nut (*Bertholletia excelsa*): Central non-timber forest product in region

- Large, mature fruits fall to ground during wet season (Dec-March)

- Fruits opened by human collectors or primarily agouti seed dispersers (*Dasyproctya sp.)* to access nuts

- Provides central livelihood activity for thousands of families



In this rapidly-changing context…



Photo: A. Chavez





Photo: R. Cox

When is Brazil nut production most resilient?

Interdisciplinary approach

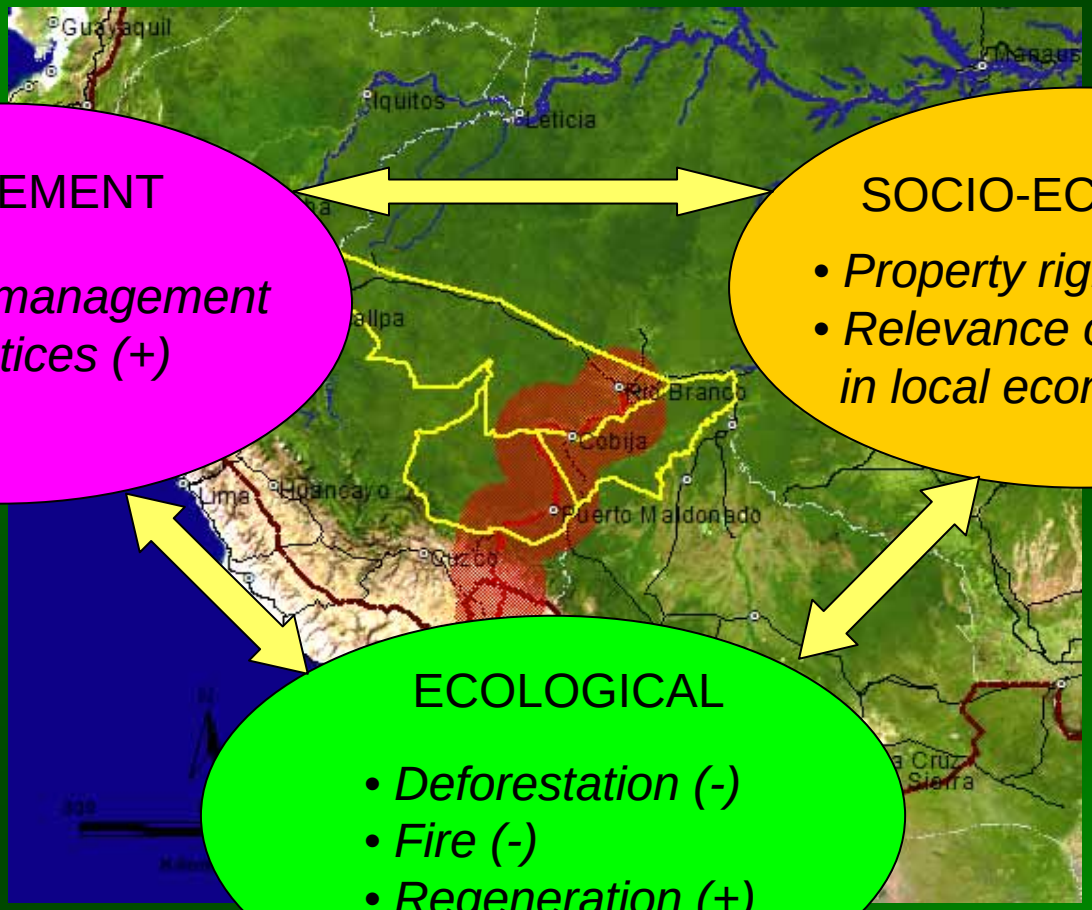




MANAGEMENT

- *Brazil nut management practices (+)*





SOCIO-ECONOMIC

- *Property rights security (+)*
- *Relevance of Brazil nut in local economy (+)*



ECOLOGICAL

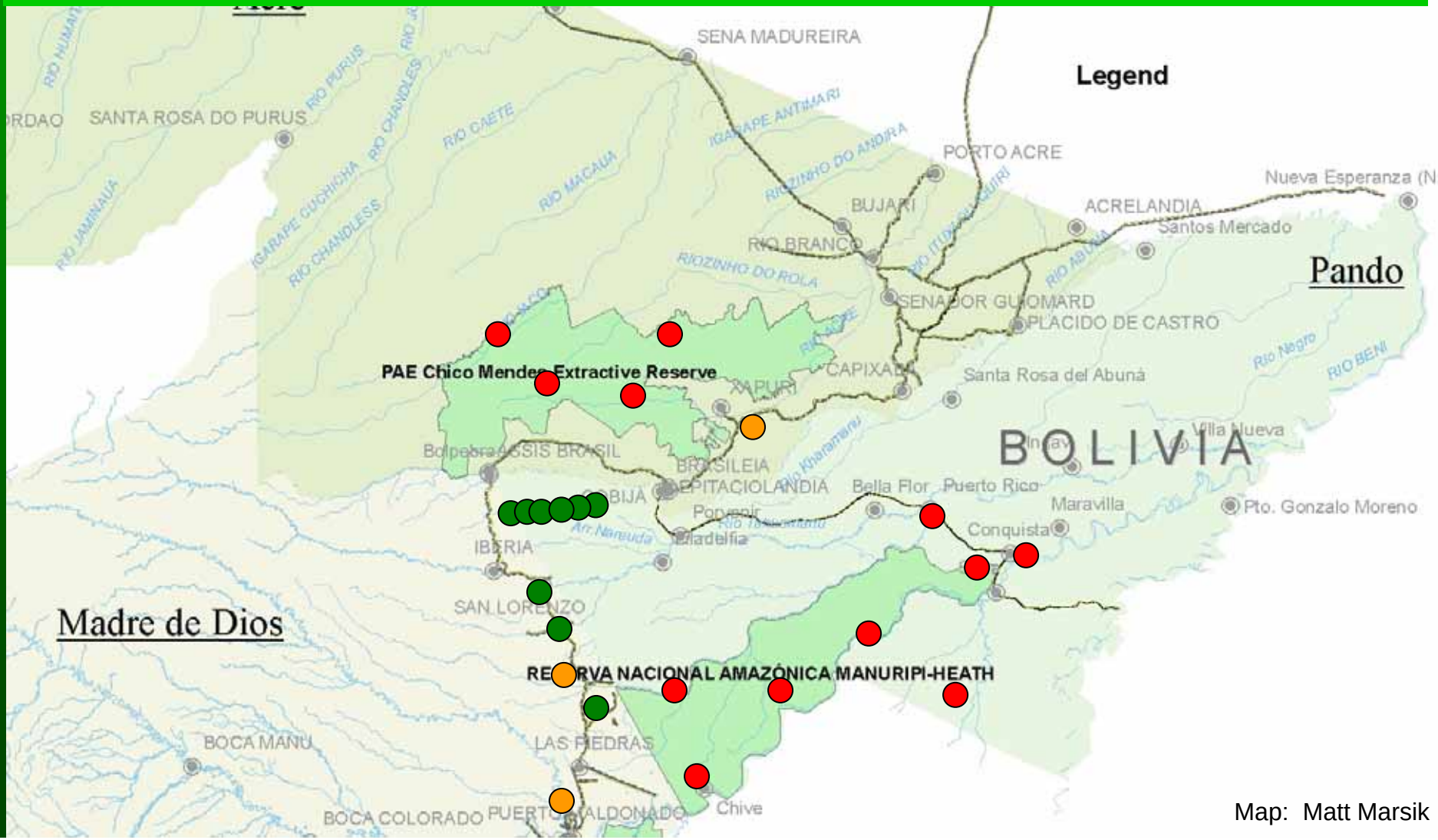
- *Deforestation (-)*
- *Fire (-)*
- *Regeneration (+)*





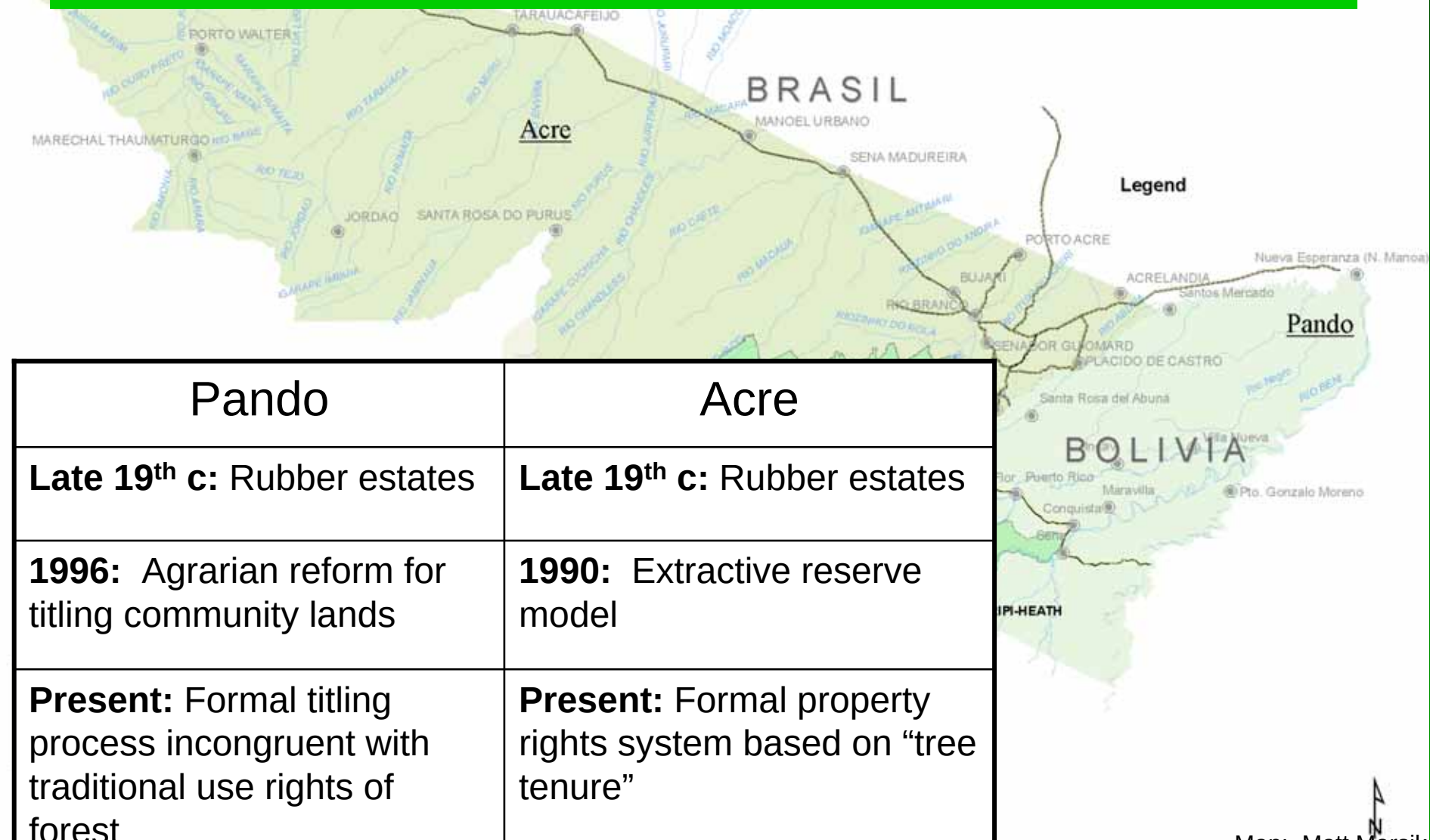
2005-07: 24 communities; 325 Brazil nut collectors

How does property rights security affect both short and long-term management of Brazil nut?



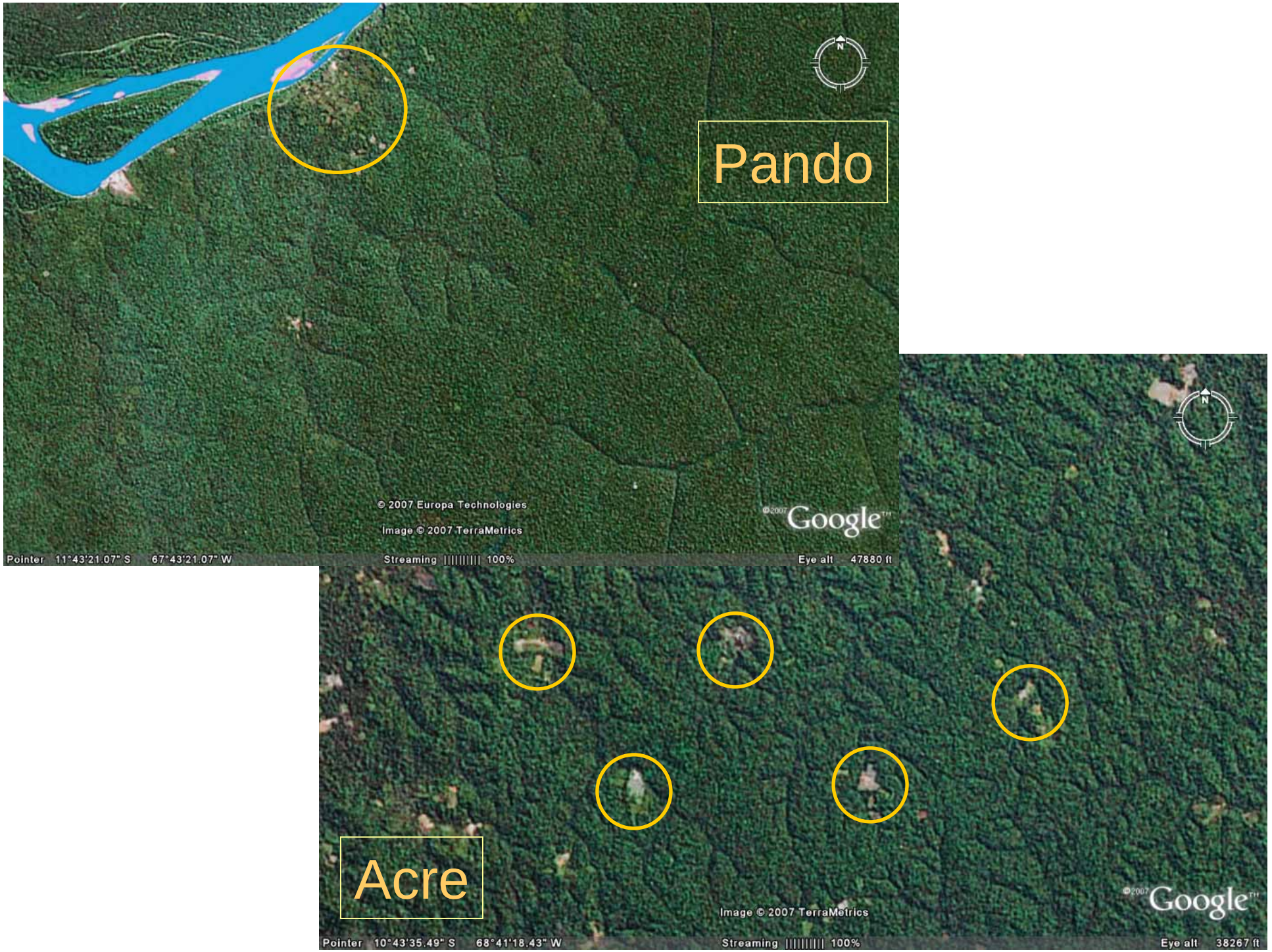
Map: Matt Marsik

Comparison: Property rights systems
Pando, Bolivia – Acre, Brazil



Pando	Acre
Late 19th c: Rubber estates	**Late 19th c:** Rubber estates
1996: Agrarian reform for titling community lands	**1990:** Extractive reserve model
Present: Formal titling process incongruent with traditional use rights of forest	**Present:** Formal property rights system based on “tree tenure”

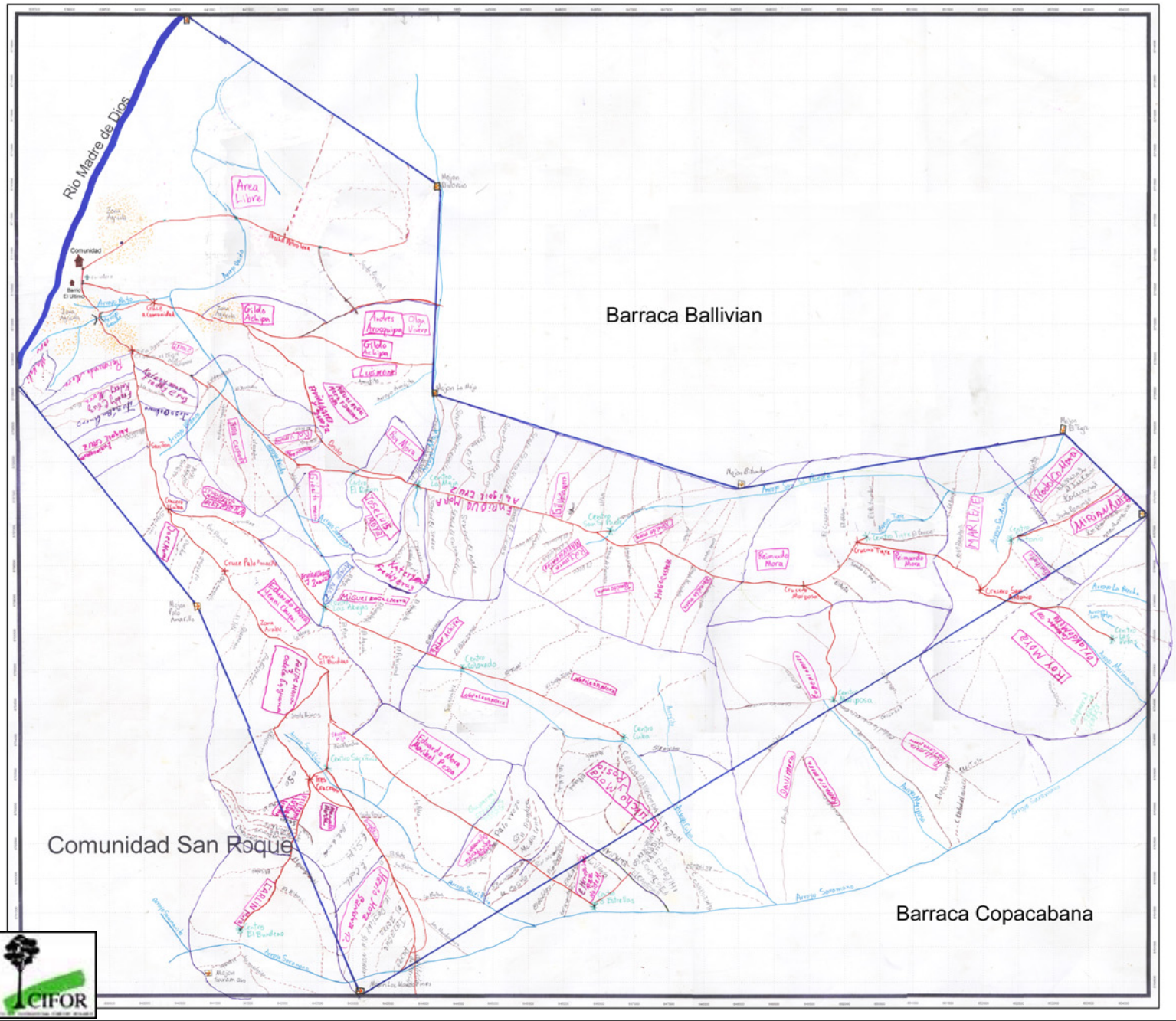
Map: Matt Marsik


Pando
© 2007 Europa Technologies
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©2007 Google™
Pointer 11°43'21.07" S 67°43'21.07" W
Streaming 100%
Eye alt 47880 ft
Acre
Image © 2007 TerraMetrics
©2007 Google™
Pointer 10°43'35.49" S 68°41'18.43" W
Streaming 100%
Eye alt 38267 ft

Comunidad Palma Real

Municipio El Sena
Departmento Pando

Valoración Multidisciplinaria de Recursos



Leyenda

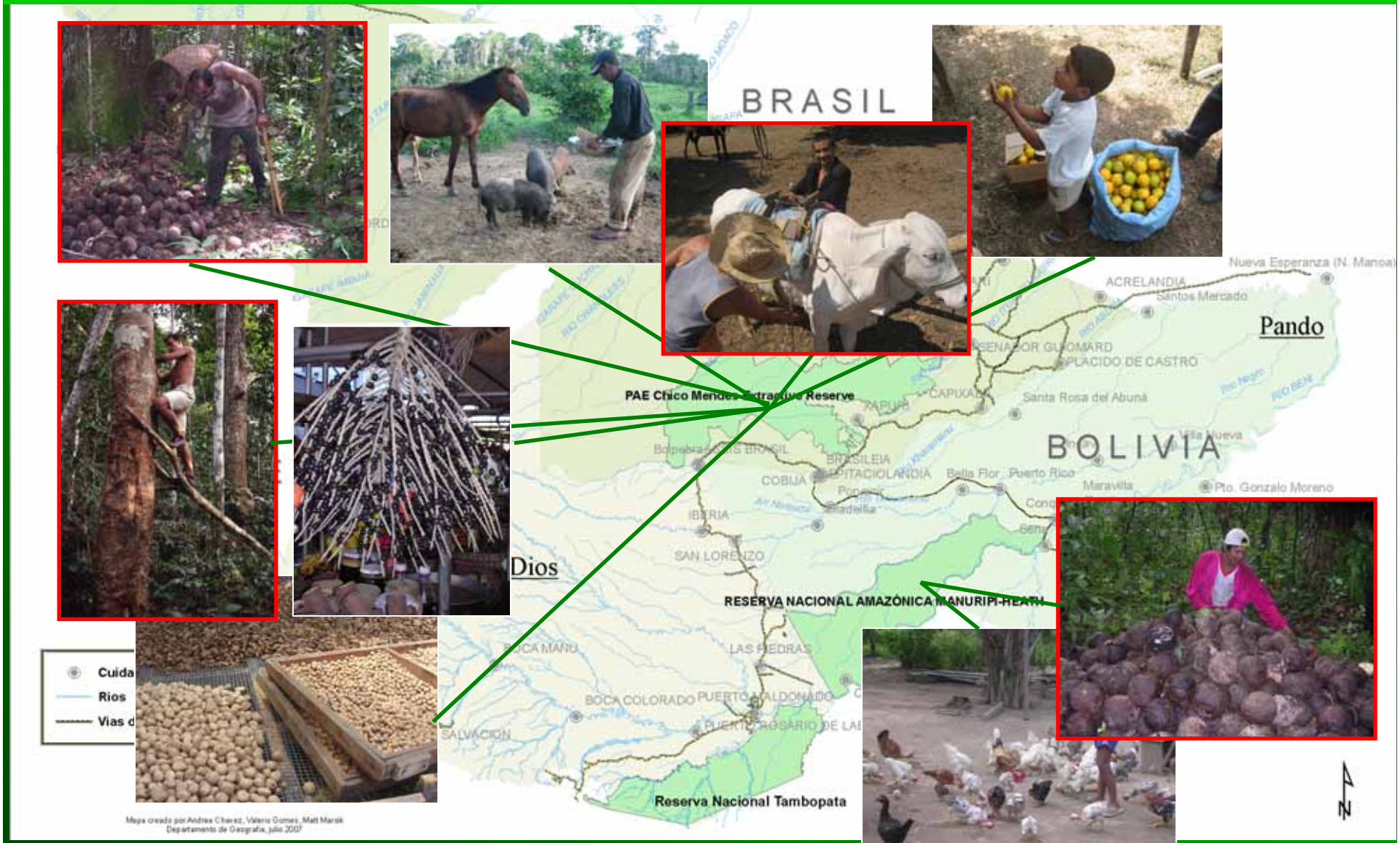
- Comunidad
- Cementerio
- Zona Agricola
- Límite de la Comunidad
- Mojón
- Camino
- Arroyo
- Puente
- Centro de Acopio de Castaña
- Senda Castañera
- Límite de Area Castañera
- Familia que Castañea
- Chaparral

N
W E
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CIFOR

Elaborado:
Mayo 2005

Comparison: Primary income sources for communities
Pando, Bolivia – Acre, Brazil



Important subsistence activities: Hunting and fishing







Important subsistence activities: Cultivation of perennial and annual crops

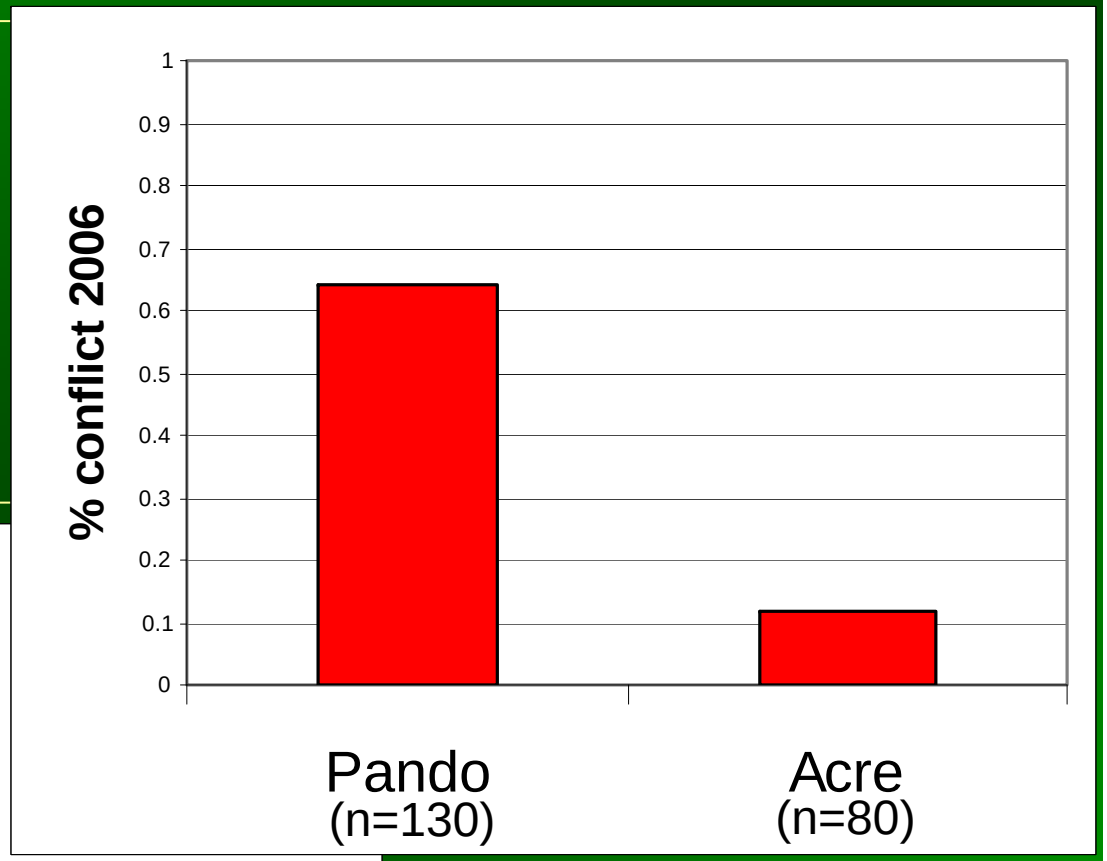


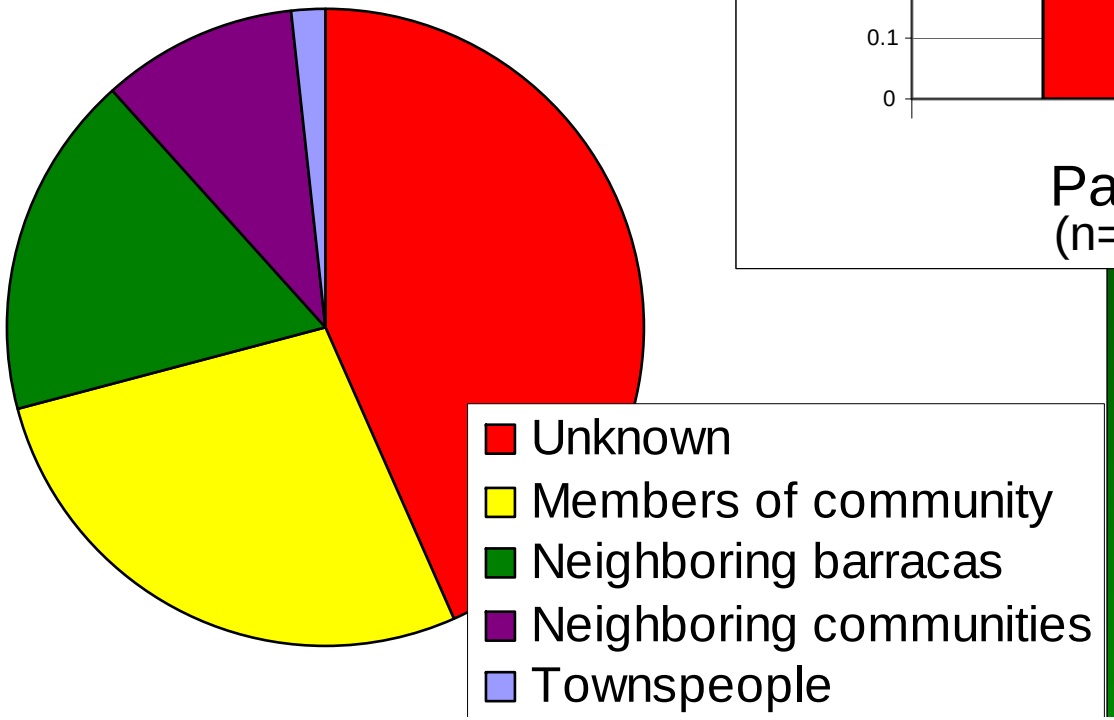




Conflicts over Brazil nuts in Pando, Bolivia

In Pando, central role of Brazil nut in local economy combined with insecure property rights results in much conflict during the harvest





Conflicts affect Brazil nut management

1) Brazil nut harvest in Pando is longer
   - December-April which contrasts with February harvest in Acre
   - Bolivian collectors visit the same trees 2-3 times during harvest

   Dangerous practice for collector

   Natural regeneration?

2) Method of collection less efficient in Pando
   - Bolivians are forced to gather, break open and transport the nuts all at once to prevent theft



Does participatory mapping aid conflict resolution?

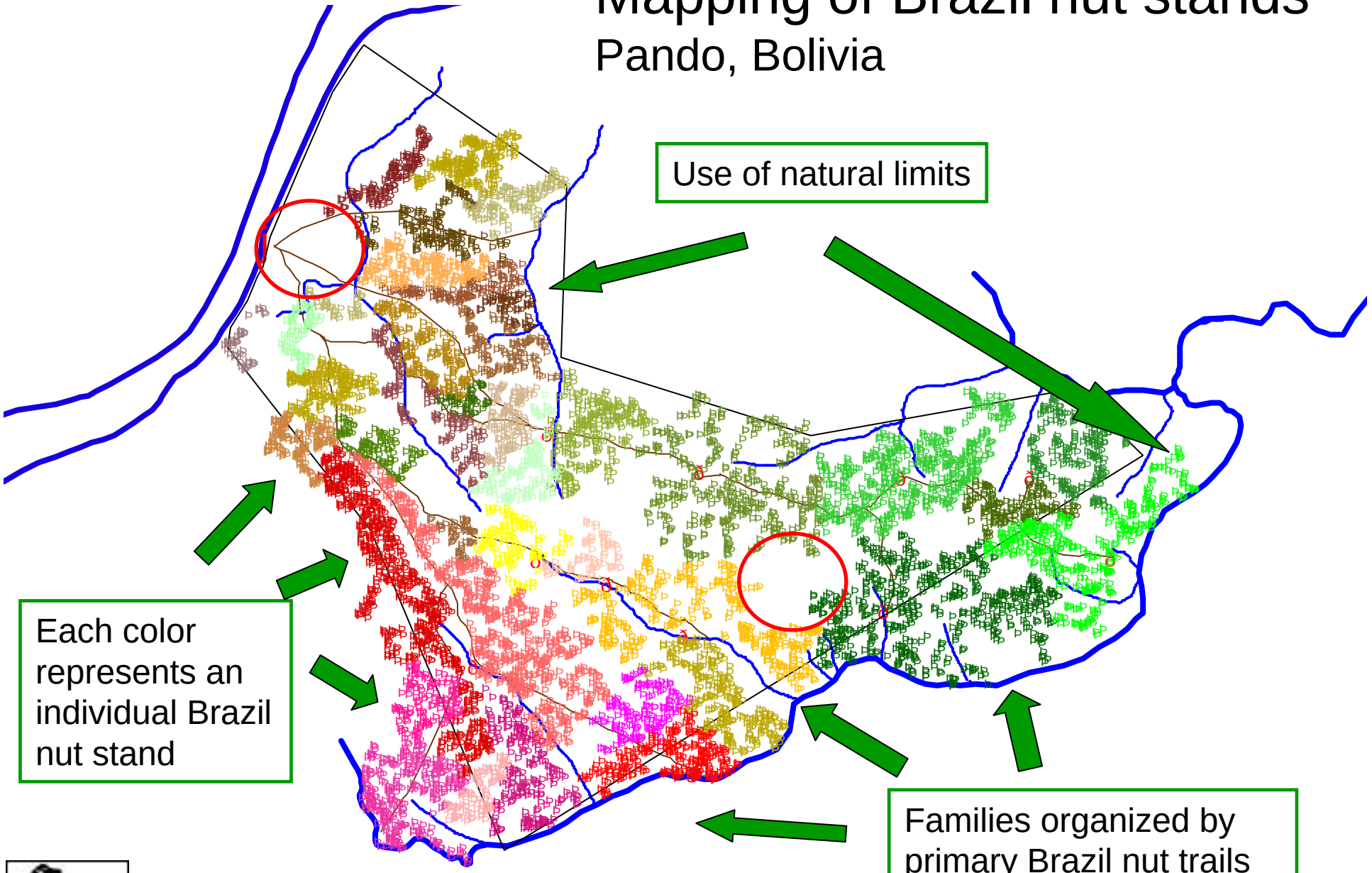






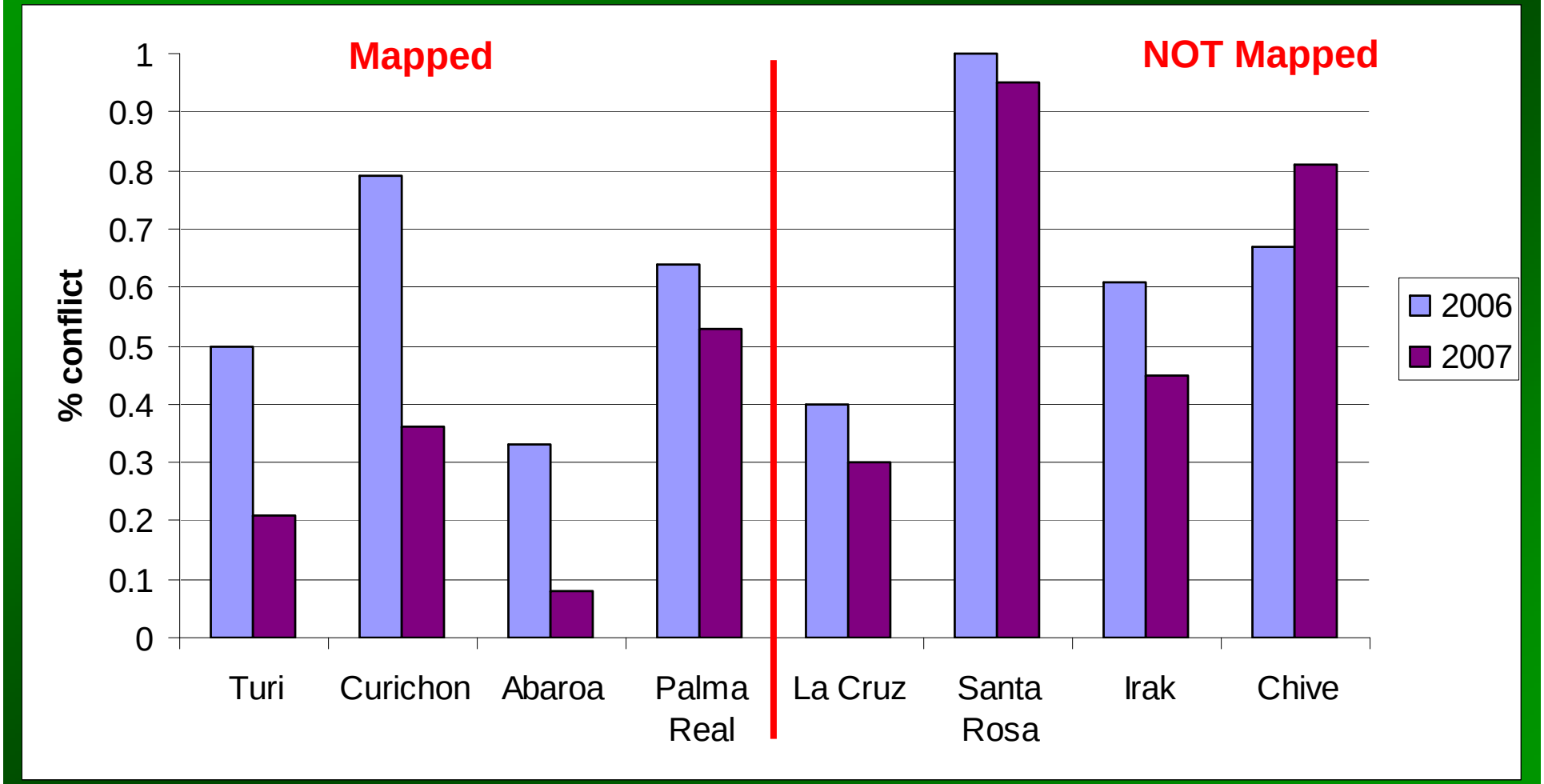
Mapping of Brazil nut stands

Pando, Bolivia



Unpublished data: P. Cronkleton & M. Albornoz

Does participatory mapping aid conflict resolution?



Summary

- Property rights security affects management of Brazil nut in Western Amazon through conflict
- In Pando, lack of property rights security combined with heavy financial dependence on Brazil nut leave few options for people in terms of management decisions
- Participatory mapping can be used as a tool for communities to deal with tenure conflict, visualize traditional forest use systems, and leverage integration of traditional practices into formal land titling processes and decision-making

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FULBRIGHT
ational Exchange of Scholars

Rainforest Alliance

CIFOR

- Brazil nut producers in MAP



Contact: Amy Duchelle
duchelle@ufl.edu